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10/043,167	01/14/2002	Tae Heoung Kim	P-0330	5034

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EXAMINER

SNIDER, THERESA T

ART UNIT	PAPER NUMBER
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1744

DATE MAILED: 10/28/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/043,167

Applicant(s)

KIM ET AL.

Examiner

Theresa T. Snider

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-- **Th MAILING DATE of this communication appears on the cover sheet with th correspondence address --**
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 October 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 January 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: 93(figure 4), 75b(figure 5A). A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

3. The disclosure is objected to because of the following informalities:

Exemplary of such:

Claim 1, line 8, it is unclear as to what is meant by 'power brush rotary';

Line 9, it is unclear as to what is meant by 'the cleaning object';

Line 18, 'as an' should be replaced with 'an';

Line 20, it is unclear as to what is meant by 'being rotary abutted';

Line 25, it is unclear as to what is meant by 'lengthened-connected'.

Page 2, line 2, it is unclear as to what is meant by 'under the condition';

Line 11, it is unclear as to what is meant by 'on the lower surface at the same time';

Line 12, it is unclear as to what is meant by 'rotary abutted'.

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Page 3, line 2, it is unclear as to what is meant by 'pan motor';

Line 6, 'a power' should be replaced with 'power';

Line 7, it is unclear as to what is meant by 'rotary abutted';

Line 19, it is unclear as to what is meant by 'thus to lowering';

Line 25, it is unclear as to what is meant by 'to have a limit in improving'.

Page 8, line 12, it is unclear as to what is meant by 'lengthened' in the given instance;

Line 14, it is unclear as to what is meant by 'near from';

Line 17, it is unclear as to what is meant by 'rotary abutted';

Line 21, it is unclear as to what is meant by 'lengthened-installed';

Line 23, it is unclear as to what is meant by 'rectilinear'.

Page 9, line 3, it is unclear as to what is meant by 'lengthened-formed';

Lines 6, 10 and 23, 'the both' should be replaced with 'both';

Line 8, it is unclear as to what is meant by 'cylindrical shape of the center hole';

Line 24, it is unclear as to what is meant by 'performs continuous brush';

Line 25, it is unclear as to what is meant by 'continuous horizontal direction'.

Page 10, line 9, it is unclear as to what is meant by 'rectilinear';

Lines 9-11, 'so that...position', it is unclear as to what is meant; it appears to be missing a word;

Line 13, 'the both' should be replaced with 'both';

Line 15, 'to' should be deleted;

Line 19, 'shaft' should be inserted after 'supporting'.

Page 11, line 5, it is unclear as to what is meant by 'lengthened-formed';

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Line 5, it is unclear as to what is meant by 'is combined on the circumferential surface is formed';

Line 6, 'the both' should be replaced with 'both';

Lines 6-8, 'At the...seceded.' It is unclear as to what is meant;

Line 17, 'a' should be deleted;

Lines 18-19, it is unclear as to what is meant by 'which is same as the guide teeth 75A of the guide bush 75 is formed'.

Page 12, line 1, 'a' should be deleted;

Line 4, it is unclear as to what is meant by 'rotary abutted';

Line 6, 'a' should be replaced with 'the';

Line 8, it is unclear as to what is meant by 'then returns to the solenoid coil 91 id formed';

Line 23, it is unclear as to what is meant by 'moving in a rotary direction, that is, just in one direction'.

Claim 13, line 7, it is unclear as to what is meant by 'can be reduced comparing with';

Line 9, it is unclear as to what is meant by 'for rotary operating';

Line 13, it is unclear as to what is meant by 'sliding abutted'.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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5. Claims 1-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Exemplary of such:

Claim 1, line 3, 'with' should be replaced with 'to';

Line 3, 'way of' should be inserted after 'by';

Line 3, it is unclear as to what 'having a suction hole on a lower surface' refers; the case or the tube?

Line 5, 'protruded toward the outside of' would be more appropriately replaced with 'protruding out from'(or the like);

Line 6, it is unclear as to what is meant by 'thus to be abutted to a cleaning object';

Line 9, it is unclear as to what is meant by 'to be capable of';

Line 11, it is unclear as to what is meant by 'power brush in the power brush';

Line 11, 'rotary operating' should be replaced with 'rotating';

Line 13, it is unclear as to what is meant by 'power brush in the power brush';

Line 13, 'linearly' with respect to which direction? Up and down or side to side?

Claim 2, lines 1-2, 'formed in the' should be deleted;

Line 2, 'in' should be inserted after 'cylindrical';

Lines 2-3, it is unclear as to what is meant by 'a brush is abutted to the cleaning object on the outer circumferential surface'; a brush in addition to the power brush?

Claim 3, line 1, a brush in addition to the power brush?

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Claim 4, line 3, 'the'(first occurrence) should be replaced with 'an';

Line 4, it is unclear as to what is meant by 'under the condition that the supporting means protrudes the power brush';

Line 6, 'to move' should be deleted;

Line 8, is the 'bearing' in addition to the 'rotary operating means' that also rotates the power brush or part thereof?

Claim 5, line 2, it is unclear as to what is meant by 'due to having a cylindrical shape';

Line 3, 'the serration structure' lacks proper antecedent basis;

Line 4, it is unclear as to which elements 'each other' refers;

Line 4, 'the rotary direction' lacks proper antecedent basis.

Claim 6, line 2, 'for' should be replaced with 'to';

Line 2, it is unclear as to what is meant by 'at the both end portions'.

Claim 7, line 2, 'a power source' should be replaced with 'power'.

Claim 8, line 2, 'type' should be deleted.

Claim 10, line 2, 'the'(first and third occurrences) should be deleted;

Line 3, is the 'elastic force' in addition to the 'opposed force' of claim 9, line 9?

Line 3, provides the force to what?

Claim 11, line 3, 'with' should be replaced with 'to';

Line 3, 'way of' should be inserted after 'by';

Line 3, it is unclear as to what 'having a suction hole on a lower surface' refers; the case or the tube?

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Line 5, 'protruded toward the outside of' would be more appropriately replaced with 'protruding out from'(or the like);

Line 6, it is unclear as to what is meant by 'thus to be abutted to a cleaning object';

Line 9, it is unclear as to what is meant by 'to be capable of';

Line 9, 'a' should be deleted.

Line 11, it is unclear as to what is meant by 'power brush in the power brush';

Line 11, 'rotary operating' should be replaced with 'rotating'.

Claim 12, line 3, 'the inner circumferential surface' lacks proper antecedent basis.

Claim 13, line 3, 'with' should be replaced with 'to';

Line 3, 'way of' should be inserted after 'by';

Line 3, it is unclear as to what 'having a suction hole on a lower surface' refers; the case or the tube?

Line 5, 'protruded toward the outside of' would be more appropriately replaced with 'protruding out from'(or the like);

Line 6, it is unclear as to what is meant by 'thus to be abutted to a cleaning object';

Line 9, it is unclear as to what is meant by 'to be capable of';

Line 11, it is unclear as to what is meant by 'power brush in the power brush';

Line 11, linearly with respect to which direction? Up and down or side to side?

Claim 14, line 4, 'the inner circumferential surface' lacks proper antecedent basis;

Line 6, provides the force to what?

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 11-12 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Dorner et al..

Dorner et al. discloses a head case connected to a cleaner body by a connecting tube (fig. 1, #20,10).

Dorner et al. discloses a power brush in the head case (fig. 1, #12).

Dorner et al. discloses a supporting means fixed in the head case for supporting the power brush (fig. 1, #28,29).

Dorner et al. discloses a rotary operating means installed within the power brush (abstract).

With respect to claim 12, Dorner et al. discloses the rotary operating means having a stator fixed to the supporting means and a rotor fixed to the power brush (fig. 2, #32,33).

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8. Claims 11-12 are rejected under 35 U.S.C. 102(a,e) as being clearly anticipated by Nishimura et al..

Nishimura et al. discloses a head case connected to a cleaner body by a connecting tube (fig. 2, #22,23).

Nishimura et al. discloses a power brush in the head case (fig. 2, #2).

Nishimura et al. discloses a supporting means fixed in the head case for supporting the power brush (fig. 2, #11,13).

Nishimura et al. discloses a rotary operating means installed within the power brush (fig. 2, #7,8).

With respect to claim 12, Nishimura et al. discloses the rotary operating means having a stator fixed to the supporting means and a rotor fixed to the power brush (fig. 2, #7,8).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.

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3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

11. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

12. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hato et al. in view of Nishimura et al..

Hato et al. discloses a suction head however fails to disclose the operating means located within the power brush.

Hato et al. discloses a head case connected to a cleaner body by a connecting tube (fig. 3, #101,103).

Hato et al. discloses a power brush in the head case (fig. 3, #105).

Hato et al. discloses a supporting means fixed in the head case for supporting the power brush (fig. 7, #106).

Hato et al. discloses a linear operating means for the power brush (col. 11, lines 13-20).

Nishimura et al. discloses a suction head for a vacuum cleaner having a power brush with the operating means located within the power brush (fig. 2, #7,8). It would have been obvious to one of ordinary skill in the art to incorporate the operating means of Hato et al.

into the power brush, as disclosed in Nishimura et al., to allow for conservation of space within the head case.

Allowable Subject Matter

13. Claim 1 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

14. Claims 2-10 and 14 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

15. The following is a statement of reasons for the indication of allowable subject matter: the prior art discloses a suction head of a vacuum cleaner having a power brush with a rotary operating means located within the power brush and a suction head of a vacuum cleaner having a power brush with linear operating means HOWEVER fails to disclose or fairly suggest the additional presence of a linear operating means installed in the power brush for moving the power linearly OR the linear operating means having a solenoid coil fixed to the supporting means, a moving core fixed to the power brush for generating a linear moving force by the flux generated by the coil and an elastic mean for providing an elastic force so the brush can perform linear fluctuating movement.

Conclusion

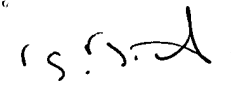
16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Doemling, Otto and Wörwag disclose suction heads having power brushes with operating means located therein.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Theresa T. Snider whose telephone number is (703) 305-0554. The examiner can normally be reached on Monday-Wednesday-Friday (6:30AM-3:00PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert J. Warden can be reached on (703) 308-2920. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



Theresa T. Snider
Primary Examiner
Art Unit 1744

TTS

10/27/03